CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

ORDER NO. 90-160

WASTE DISCHARGE REQUIREMENTS FOR REINFILTRATION OF TREATED GROUNDWATER FOR:

MONSANTO COMPANY and CAMSI IV

FOR THE PROPERTY LOCATED AT:

2710 LAFAYETTE STREET
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Monsanto Company, hereinafter called the discharger, by application dated January 22, 1990, has applied for issuance of waste discharge requirements for reinfiltration of treated extracted groundwater. An estimated flow of 11,520 to 14,400 gallons per day of water will be recharged to the upper groundwater bearing zone via an infiltration trench which will increase the hydraulic gradient and flow velocities toward an extraction trench. The extraction trench, located generally downgradient from the infiltration trench (see Figure 1), removes polluted groundwater from the same zone prior to treatment. This Order is intended to regulate recharge of the treated groundwater.

2. The discharger previously owned and operated a plastic and resin manufacturing facility at the site located at 2710 Lafayette Street, Santa Clara County near the intersection of U.S. Highway 101 and Lafayette Street. CAMSI IV, the current property owner, is called a discharger and will be responsible for compliance only in the event that Monsanto fails to comply with this Order. Hunter Technology Corporation, now Clifford B. Hunter, Inc., leased a building on the site from 1968 to 1983 in which they manufactured printed circuit boards. According to file documents, TCE was used in Hunter's manufacturing process at the site in the early years of their occupancy. Therefore, Board staff is evaluating whether Hunter should be named as a discharger, and, if warranted, the Board will consider adding Hunter's name to this Order.

3. Investigation and mitigation of soil and groundwater pollution at the site is being carried out under Site Cleanup Order No. 89-138. Subsurface investigations have been

conducted by Monsanto since 1981. Groundwater samples have detected TCE at concentrations as high as 4600 ppb (parts per billion) and benzene as high as 73 ppb. Soil sampling by Hunter in April of 1990, near their former onsite facility, indicate PCB concentrations as high as 35 ppm (parts per million). PCBs have also been detected in soil to the north of this area, along portions of the extraction trench alignment, in concentrations up to 44 ppm. The full extent of PCBs in soil and groundwater is currently under investigation.

4. Under Site Cleanup Order 89-138, the discharger has installed a groundwater extraction, treatment and infiltration system as an interim measure to control migration of polluted groundwater onsite. The treatment system consists of an air stripper and carbon adsorption beds. The installed groundwater treatment system would be effective for any PCBs that may be present in groundwater. An infiltration trench has been installed to recharge the treated groundwater to the subsurface to the same shallow zone from which it came.

5. The infiltration trench is about 300 feet long and 23 feet deep and is located upgradient from the extraction trench. Groundwater infiltration will generate a recharge mound approximately 1.5 feet above the static water level. Model results indicate that the majority of recharge water will be recaptured by the extraction trench. The infiltration trench should be monitored during operation to assure hydraulic control of the entire recharge mound and to detect signs of potential trench failure, such as clogging in the infiltration trench and/or surrounding formation due to introduction of treated groundwater.

6. The discharger has considered the feasibility of reclamation, reuse, or discharge to a publicly owned treatment works (POTW), as specified in Board Resolution No. 88-160 and as required by Order No 89-138. Discharge to a POTW is not feasible since the City of San Jose does not allow the long term discharge of treated groundwater into their system. The discharger has determined that reuse is feasible and proposes to operate the reinfiltration system described in Finding 5. above. Regional Board staff concurs with the proposed reuse plan.

7. The discharger has submitted a proposed contingency plan, dated June 14, 1990, for handling excess treated groundwater in the event that water levels approach the top of the permeable backfill in the infiltration trench. Regional Board staff has reviewed the plan and found it incomplete. The discharger will submit a revised contingency plan.

8. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986, as well as several subsequent amendments. The Basin Plan contains water quality objectives for Guadalupe River, South San Francisco Bay, and the underlying groundwater.

9. The existing and potential beneficial uses of the underlying groundwaters are:

a. municipal and domestic supply
b. industrial process and service supply
c. agricultural supply

10. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin". The discharger's groundwater extraction, treatment and infiltration system and associated operation, maintenance, and monitoring plans constitute an acceptable control program for minimizing the discharge of toxicants to waters of the State.

11. Effluent limitations of this Order are based on the Basin Plan, State and U. S. Environmental Protection Agency (EPA) plans and policies, and best engineering and geologic judgement. EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document" was also considered in the determination of effluent limits.

12. The project constitutes a minor modification to land and such activity is thereby exempt from the provisions of the California Environmental Quality Act in accordance with Section 15304, Title 14, of the California Administrative Code.

13. The discharger is not required to comply with the Underground Injection Control Program (40 CFR Part 144) because the depth of the infiltration gallery does not exceed the largest surface dimension.

14. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder shall comply with the following:

A. <u>EFFLUENT LIMITATIONS</u>

1. Purge water will be generated during quarterly groundwater sampling. This purge water may be introduced into the groundwater treatment system.

2. Upon adoption, instantaneous maximum effluent discharge shall not contain

constituents in excess of the limits contained in Table 1 below:

Table 1

Constituent	Effluent Limits (ug/l)
VOCs	
Chloroform	5.0
Chlorobenzene	5.0
1,1,1-trichloroethane	5.0
Tetrachloroethylene	4.0
Trichloroethylene	5.0
1,1 dichloroethylene	5.0
1,1, dichlorethane	5.0
Vinyl chloride	0.5
1,2-dichloroethylene	5.0
Total VOCs	5.0
Benzene	1.0
Ethylbenzene	5.0
Xylenes	5.0
Polynuclear aromatic hydrocarbons	15.0
Polychlorinated Biphenyls	2.0

3. The pH of the discharges shall not exceed 8.5 nor be less than 6.0.

4. The discharger shall report any other organic constituents identified during any required analyses, or in the course of other site investigations, that may be or become a constituent in the purge or extracted groundwater regulated by this Order.

B. PROHIBITIONS

1. The treatment, storage and discharge of treated waste groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code, nor degrade the quality of any useable groundwater.

2. There shall be no bypass or overflow of untreated or inadequately treated waste groundwater to waters of the State from the dischargers' wastewater collection, treatment or distribution facilities.

3. No waste groundwater shall be allowed to escape from the designated recharge

area as surface flow nor be disposed of to an area other than that stipulated in this Order, except as pursuant to an approved contingency plan.

4. The discharge of waste other than treated waste groundwater, derived onsite from the extraction system or groundwater sampling purge water, as defined in this Order, is prohibited.

C. PROVISIONS

1. The discharger shall comply with all sections of this order upon adoption by the Board and upon starting any discharge.

2. The discharger shall comply with the Self-Monitoring Program as adopted by the Board and as may be amended by the Executive Officer.

3. The discharger shall notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.

4. Any discharge to a location other than the discharge point(s) specified in this Order will require a modification to this Order or submission of a second WDR application.

5. The discharger shall maintain a copy of this order at the site so as to be available at all times to site operators.

6. The discharger shall submit a revised contingency plan for handling excess treated groundwater that is acceptable to the Executive Officer by March 1, 1991. The plan may include adjustment of flow rate through optimal pumping of the extraction trench. Any accepted plan shall maintain hydraulic control of the plume and recharge mound, and shall comply with the requirements of this Order.

7. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

8. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this order.

9. The discharger shall permit the Board or its authorized representatives in accordance with California Water Code Section 13267(c):

a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept which are relevant to this order;

b. Access to any records that must be kept under the conditions of this order;

c. To sample and monitor soil or groundwater for the purpose of assuring compliance with this order.

d. Inspection of any methodology implemented, or any monitoring, extraction treatment or infiltration equipment used in response to this Order.

10. If any hazardous substance is discharged in or on any waters of the state, or discharged and deposited, or probably will be discharged in or on any waters of the state, the discharger shall report such discharge to the following:

a. This Regional Board at (415) 464-1255; and,

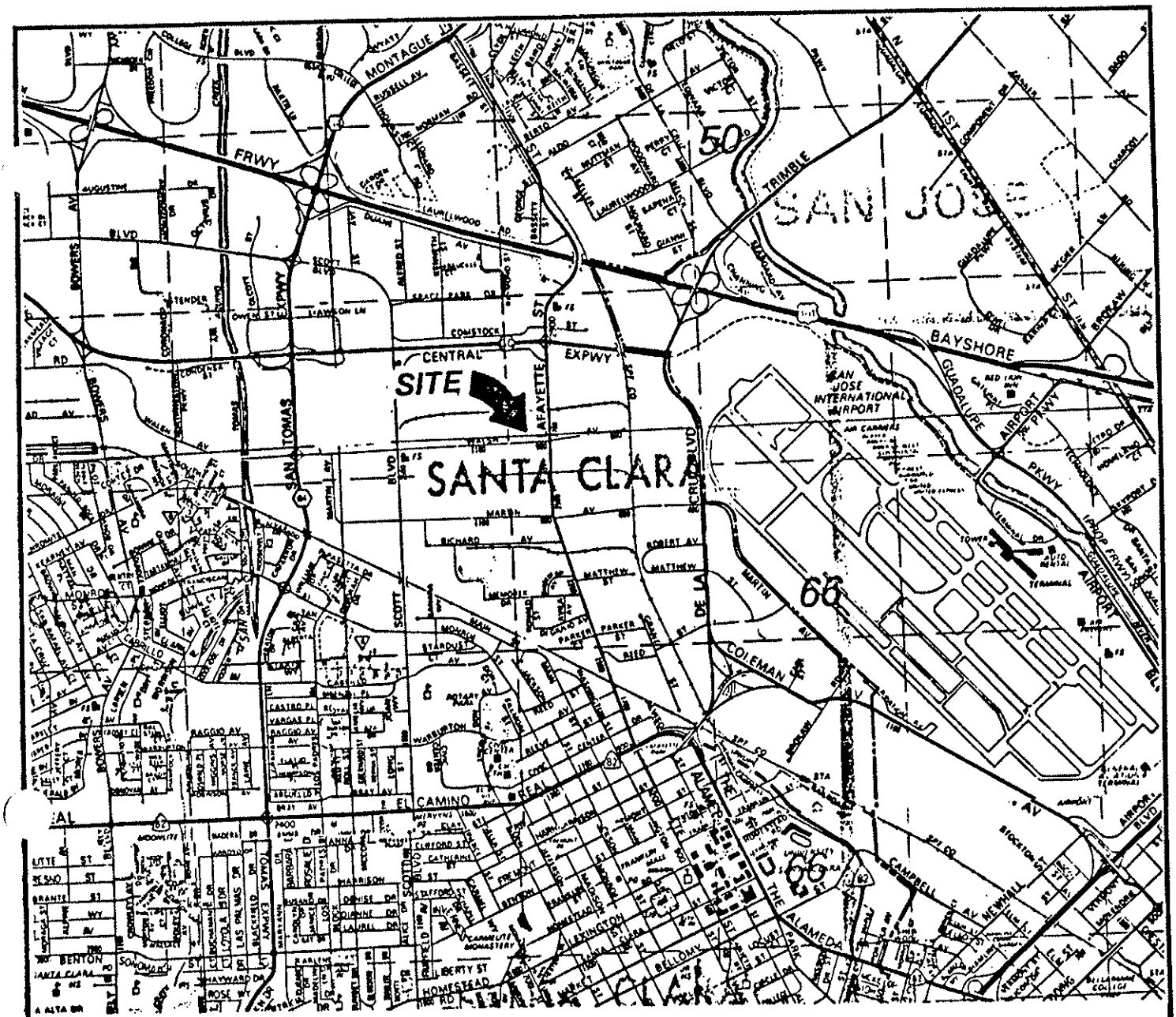
b. The Office of Emergency Services at (800) 852-7550.

11. The Board will review this order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 12, 1990.

Lawrence P. Kolb
for
STEVEN R. RITCHIE
Executive Officer

Attachments:
Self-Monitoring Program
Site Map (Figure 1)



KLEINFELDER

PROJECT NO. 10-1658-08

SITE LOCATION MAP

CAMSI IV PROPERTY
SANTA CLARA, CALIFORNIA

PLATE

1

California Regional Water Quality Control Board
San Francisco Bay Region

Self-Monitoring Program

for

Monsanto Company and Camsi IV
2710 Lafayette Street
Santa Clara, Santa Clara County

Waste Discharge Requirements Order No. 90-160

Adopted on December 12, 1990

A. General

1. Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16.

2. The principal purposes of a Self-Monitoring Program by a waste discharger are to document compliance with waste discharge requirements and prohibitions established by the Board; to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge; to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards; and to prepare water and wastewater quality inventories.

B. Sampling and Analytical Methods

1. Sample collection, storage, and analyses shall be performed according to the 40 CFR 136 or other methods approved and specified by the Executive Officer of this Regional Board.

2. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Department of Health Services. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

3. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. Specifications for Sampling and Analysis

1. The discharger is required to perform sampling and analysis at the points listed below and according to the schedule in Table 1.

2. Effluent-water sampling points:

E-1 At a point in the groundwater treatment system effluent conveyance line prior to discharge into the infiltration trench.

TABLE 1

	E-1
Treated groundwater flowrate (gal./day)	D
System Operation*	B
EPA 8240	I/M/Q
EPA 8100	I/M/Q
EPA 8080	I/M/Q
Nitrate	I/Y
pH, units	I/M/Q
Priority metals**	I/Y

D = daily
B = bimonthly (twice per month)
I/M/Q = initially upon commencement of discharge, then monthly for three months, then quarterly
I/M/Y = initially upon commencement of discharge, then monthly for three months, then yearly
I/Y = initially upon commencement of discharge, then yearly

* bimonthly visual confirmation that surface run-off is not occurring, and that the back-pressure device for inflow to the infiltration trench is operational

** antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, zinc

D. Records to be Maintained

1. Written reports, calibration and maintenance records, sampling and analytical records, and other compliance records shall be maintained by the dischargers for a period equal to the life of this Order, but not less than three years. The most recent three years' worth of records shall be available at the discharge facility named in this Order, and the balance of the records, three years and older may

be retained at the discharger's main office in St. Louis. The period of retention may be extended due to unresolved litigation or by request from the Regional Board. Records three years and older maintained offsite shall be made available to the Board at their office upon request by the Executive Officer.

2. Tabulation of flow data to include total flow volume per day and cumulative daily flow. Refer to "Data" section below.

E. Reports to be Filed with the Regional Board

Report of Order Violations
In the event discharger violates or threatens to violate the conditions of the waste discharge requirements, the discharger shall notify the Regional Board within 24 hours. Notice by telephone may be made to (415) 464-1255, with a written confirmation report forwarded within five working days of the violation.

Self-Monitoring Reports
Written reports shall be filed regularly for each calendar quarter, and shall be submitted by the last day of the month following the quarter.

Quarterly reports shall include:

1) Letter of Transmittal - A letter transmitting each self-monitoring report shall include any requirement violations occurring during the last report period, and actions taken or planned for correcting the violations. If no violations have occurred in the current report period this shall be stated in the letter of transmittal. Include reference to past reporting violations and corrective measures taken.

2) Data - All monitoring and operational data is to be submitted in tabular form, and should include at least the following:

   a) Table 1 Results - including flowrate and sampling analytical results. Table 1 results shall be presented by station, date and type of sample.

   b) Treatment System Performance Data - summary of monthly performance data for the quarter to include month, daily/cumulative daily extraction in gallons, influent concentrations and total pounds of VOCs removed.

   c) Purge Water Characteristics - volume, constituents and their concentrations, and date introduced to treatment system, of purge water generated from sampling.

3) Site map - A site map for all discharge areas shall accompany quarterly reports. Show locations of sample and observation stations, and any location and/or areas where violations have occurred.

4) Discussion of Monitoring Activities - the report shall include a detailed discussion of the following monitoring activities.

   a) Order Violations - any violations of requirements of this order which occurred during this reporting period, cause of violation, and actions taken or planned to achieve compliance.

   b) Sampling and Monitoring - all sampling and monitoring points and methodologies to be detailed in the first quarterly report, due on April 30, 1991. Thereafter, only changes in sampling and monitoring points and methodologies need be discussed.

   c) Recharge Mound - location and configuration of the recharge mound, monitored as proposed in the approved Contingency Plan. Monitoring points should provide ground water level and concentration data upgradient, downgradient and in areas adjacent to the infiltration trench. If necessary to maintain hydraulic control of the recharge mound, adjustments in operation of the infiltration trench shall be proposed.

   d) Infiltration Trench Performance - any symptoms that may be identified that signal failure of the infiltration trench through clogging, saturation or other mechanism. Monitoring locations and measurements shall be as specified in an approved Contingency Plan.

5) Signature - All reports shall be signed by a principal executive of at least the level of vice president or his duly authorized representative. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct. The letter shall contain the following certification: " I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Annual Reporting

By January 31 of each year, beginning on January 31, 1992, the discharger shall submit an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a discussion of the compliance record and the corrective actions taken or planned which may be needed to reach full compliance with the waste discharge requirements. The annual report may include the quarterly report due concurrently.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program is as follows:

1. Developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 90-160;

2. Effective on the date shown below; and,

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.

for Steven R. Ritchie
Executive Officer

Dec. 12, 1990
Date Ordered